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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,243	01/10/2004	Christine M. Greiser	A3182-US-NP	9646

7590 06/29/2004

Patent Documentation Center  
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EXAMINER

NGUYEN, THINH H

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/755,243	<b>Applicant(s)</b> GREISER ET AL. <i>gr</i>	
	<b>Examiner</b> Thinh H Nguyen	<b>Art Unit</b> 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/10/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-12, 21-36 are rejected under 35 U.S.C. § 102(b) as being anticipated by Moore et al. (U.S. 5,610,645)

Moore (figs. 1-5) discloses every element of the instant claimed drop emitting device comprising:

a first linear array of fluidically coupled first finger manifolds (see devices 12, 22, 24), the first linear array extending along a first axis and the first finger manifolds being oblique to the first axis;

a second linear array of fluidically coupled second finger manifolds (see devices 12, 22, 24), the second linear array extending along the first axis and the second finger manifolds being oblique to the first axis; the first linear array and the second linear array being interleaved to form a first composite linear array (characterized by the magenta and cyan manifolds; fig. 1) extending along the first axis;

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a third linear array of fluidically coupled third finger manifolds (see devices 12, 22,24), the third linear array extending along the first axis and the third finger manifolds being oblique to the first axis;

a fourth linear array of fluidically coupled fourth finger manifolds (see devices 12, 22,24), the fourth linear array extending along the first axis and the fourth finger manifolds being oblique to the first axis; the third linear array and the fourth linear array being interleaved to form a second composite linear array (characterized by yellow and black manifolds 12; fig.1) extending along the first axis;

the first composite linear array and the second composite linear array being side by side generally along a second axis that is orthogonal to the first axis and forming a z-dimensional array of finger manifolds (see figs.1, 2), and

a plurality of drop generators (46), each fluidically connected to one of the first, second, third and fourth finger manifolds.

3. Claims 13-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nakamura et al. (U.S.6,488,355)

Nakamura discloses every element of the instant claimed drop emitting device comprising:

a linear array of side by side finger manifolds (5); the linear array extending along an X-axis and the finger manifolds extending obliquely to the X-axis;

a plurality of drop generators (9) fluidically coupled to each finger manifold wherein the finger manifolds are substantially mutually parallel;

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wherein the drop generators comprise piezoelectric drop generators (7);

wherein each of the drop generators includes an ink pressure chamber (3, see fig.3, 4) that is behind the finger manifolds (5);

wherein the finger manifolds are substantially mutually parallel, and wherein the plurality of drop generators comprise a plurality of linear arrays of outlet channels that are substantially parallel to the finger manifolds;

wherein each of the plurality of drop generators is adjacent a finger manifold to which such drop generator is fluidically connected;

wherein the finger manifolds receive melted solid ink;

wherein the finger manifolds and the plurality of drop generators are implemented in a laminate stack of metal plates.

***Pertinent Prior art***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,087,930 to Roy et al. (fig.6B, 18) discloses interleaved finger manifolds arranged in an oblique manner.

**Contact Information**

5. Any inquiry concerning this communication should be directed to examiner Thinh Nguyen at telephone number (571) 272-2257. The examiner can generally be reached Mon-Wed, and Friday from 9:00A – 5:00P. Thursday at telephone number (703) 440-1447. The official fax phone number for the organization is (703) 872-9306.

The examiner supervisor, Stephen Meier, can also be reached at (571) 272-2149.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-1782.



Thinh Nguyen  
June 25, 2004

**Thinh Nguyen**  
**Primary Examiner**  
**Technology Center 2800**